

REMARKS

Reconsideration and allowance of the application are respectfully requested in light of the above amendments and the following remarks.

The Applicants acknowledge with appreciation the indication in the Office Action at page 13, items 5 and 6, that claims 56-57, 68 and 78 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and that Claims 74 and 76 are allowed.

Claims 45, 47-48, 50-51, 53-54, 56-63, 65-69, 71-76, 78 and 80 have been amended, claims 81-83 have been added, and claims 46, 49, 52, 77, and 79 have been cancelled without prejudice or disclaimer. No new matter is entered.

Claims 51-55 and 77 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite “because the claims claim both a system or a base station and method steps of using the system.” Claims 45-50, 58-67, 69-73, 77 and 80 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Jang (US 5,579,373) (hereinafter, “Jang”). Claims 51-55 and 75 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jang in view of Doner (US 5,649,292) (hereinafter, “Doner”).

It is respectfully submitted that the rejections of the claims should be withdrawn for at least the following reasons.

With respect to the 35 U.S.C. § 112, second paragraph, rejection of claims 51-55 and 77, independent claim 51 has been amended to clearly recite a method for balancing the distribution of interference between radio cells in a wireless communication system, and recites three different method operations (a “grouping” operation, a “determining” operation, and an “assigning” operation) which are to be used in accordance with the Applicants' claimed method.

Although claim 51 also recites structural features, such as a “plurality of radio cells,” there is no rule prohibiting a method claim from reciting structural features. Furthermore, the Office Action’s reliance on IPXL Holdings v. Amazon.com, Inc., 430 F.3d 1377, 1384 (Fed. Cir. 2005) and Ex Parte Lyell, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990), is misplaced. (It is noted that the correct citation to IPXL is 430 F.3d 1377). In IPXL, the claims at issue included conflicting method and system features not present in the instant claims. For example, claim 1 of U.S. Patent No. 6,149,055, at issue in IPXL, recited a preamble directed towards an “electronic financial transaction system for executing financial transactions,” but then also recited a series of method steps performed in the body of the claim, such as “the processor causing the display to display on a single screen stored transaction information” and “the input mechanism enabling a user to use the displayed transaction information to execute a financial transaction...” Accordingly, the claim at issue in IPXL ambiguously recited both apparatus and method elements throughout the preamble and the body.

In contrast, as explained above, claim 51 consistently recites method features throughout the claim. Specifically, claim 51 recites a preamble directed towards a “method for balancing the distribution of interference between radio cells in a wireless communication system,” and further recites three different method operations in the body of the claim (a “grouping” operation, a “determining” operation, and an “assigning” operation) which are to be used in accordance with the claimed method. Unlike claim 1 in IPXL, Claim 51 clearly and consistently recites features directed towards a method claim throughout the entire recited claim, and therefore does not suffer from the same ambiguities found in that case. Thus, the caselaw relied upon in the Office Action to reject claims 51-55 and 77 is factually distinguishable from the

instant application, and it is respectfully submitted that the rejections of claims 51-55 and 77 under 35 U.S.C. § 112, second paragraph, should be withdrawn for at least this reason.

The new claimed subject matter of independent claims 45, 69, 73, and 74 is based on the respective pending claims and the teaching of claim 46 and further supplemented based on paragraph [0094] of the publication of the instant application, US 2009/0221297 A1. The independent claims recite that the assignment of the plurality of transmission power levels to the subcarrier block sets of radio cells of a cell cluster takes into account the assignment of the plurality of transmission power levels to the subcarrier block sets of the other radio cells of the cell cluster. Furthermore, the preambles of the independent claims have been clarified.

The essence of the claimed invention, as recited by the independent claims, is to coordinate the assignment of transmission power levels in cells of a cell cluster (see, for example, FIG. 5) such that the overall interference between the cells of the cell cluster can be reduced. This is achieved by dividing the grouping of said subcarrier blocks into a plurality of subcarrier block sets in each radio cell of the cell cluster, and coordinating the assignment of the transmission power levels within the cells of the cell cluster as stated above.

Also, a similar amendment has been applied to independent claims 51, 75, 76 and newly added independent claim 81. These claims relate to an alternative implementation, where a different structure of the cell organization of the communication system is assumed. In these claims, the individual cells are each divided into sectors, and the coordination of the transmission power levels is performed on adjacent sectors of different radio cells forming a so-called sector cluster (see, for example, FIG. 12 or FIG. 13). In principle, this coordination of the transmission power level in the different sectors of a sector cluster, as recited by independent claims 51, 75,

76 and 81, is substantially identical to the control of the transmission power level within the individual cells of a cell cluster as recited by claims independent claims 45, 69, 73 and 74.

Furthermore, more specific assignment rules of the transmission power levels to the subcarrier block sets of radio cells of a cell cluster, or the sectors of a sector cluster, are provided in dependent claims 47, 48, 53, 54, 71, 72, 82 and 83, while independent claims 73, 74, 75 and 76 (related to more specific embodiments of the concept outlined above) already contain the more detailed assignment rules.

With respect to the rejections of 45-50, 58-67, 69-73, 77 and 80 under 35 U.S.C. § 102(b) as being anticipated by Jang, it is noted that Jang has also been cited by the European Search Report and the International Search Report of the PCT application on which the US patent application is based. The EP counterpart application of the present application has already been granted in view of Jang.

Jang relates to a cellular radio telephone system including at least one mobile communication station and particularly to a transmission power control method for dynamically adjusting transmission power of a base station and a mobile station in a digital cellular radio telephone system as well as in an analogue system (see column 1, lines 7-12). As is apparent from column 2, line 54 to column 3, line 15, Jang allows a reduction of the frequency-reuse distance of described conventional systems which is significantly larger than one.

Jang suggests (see column 6, line 66 to column 7, line 18) that the traffic channels within a radio cell are grouped into several groups according to the transmission output strengths. The location groups are generally formed within a single cell by estimating the mobile station distribution within the cell and properly adjusting several transmission output levels on the base station for form several location groups around the base station. An example of forming a

distinct location group being sent corresponding transmission output levels is shown in FIG. 1 of the prior art document.

Concerning the allocation of the channels to the mobile stations, the RSSI level of the individual mobile station is measured and reported to the base station which assigns the respective mobile station to a location group based on an RSSI level map as shown in table 2 (see column 8, lines 1 to 23). Accordingly, the location group to which the mobile terminal is assigned determines the transmission power level for the mobile terminal as shown in table 1 of Jang.

As becomes apparent from the summary of Jang, it is suggested to group several channels into groups and to assign certain transmission power levels to the respective location groups. Throughout the whole description of Jang, there is made reference to only one single cell and the use of location groups within the single cell is described.

However, there is no disclosure, either expressly or inherently, in Jang of coordinating more than a single radio cell, i.e., the cells of a cell cluster or the sectors of a sector cluster (the latter also being acknowledged in the Office Action, see page 10, third paragraph, noting “Jang does not disclose the system comprising a plurality of radio cells each of them comprising at least two sectors...”). Hence, Jang appears to be unrelated to the subject matter recited by the independent claims.

Accordingly, it is respectfully submitted that Jang fails to disclose each of the recited features of the independent claims, e.g., “...assigning the plurality of transmission power levels to the subcarrier block sets of one of the radio cells of the cell cluster by taking into account the assignment of the plurality of transmission power levels to the subcarrier block sets of the other radio cells of the cell cluster” (emphasis added) as recited by claim 45, and Doner fails to cure

these deficiencies of Jang. Therefore, the rejections of claims 45, 51, 69, 73-76, and 81, and all dependent claims therefrom, should be withdrawn for at least this reason.

Furthermore, it is noted that referring to a frequency reuse factor of significantly larger than one (even if it is reduced to a reuse factor of two) as taught in column 2, line 54 to column 3, line 15 of Jang implies that adjacent cells use different frequencies (i.e., subcarriers on different frequencies). In contrast, the methods and apparatuses recited by the independent claims in the present application assume a frequency reuse factor of one, as recited, for example, by the feature of “the radio cells of the cell cluster each comprise corresponding subcarrier block sets, and...each subcarrier block has the same subcarriers,” as recited by claim 45. Thus, in the methods and apparatuses of the instant application, within the cells of the cell cluster (sectors of a sector cluster) the same subcarriers, i.e., the same (carrier) frequencies are used.

Accordingly, Young does not anticipate the distribution of transmission power levels in cells of a cell cluster (or sectors of a sector cluster) under consideration of the assignment of the plurality of transmission power levels to the subcarrier block sets of the other radio cells (or sectors) of the cell cluster (or sector cluster).

Therefore, the rejections of claims 45, 51, 69, 73-76, and 81, and all dependent claims therefrom, should be withdrawn for at least this reason as well.

With respect to the rejections of claims 51-55 and 75 under 35 U.S.C. § 103(a) as being unpatentable over Jang in view of Doner, the teaching of Doner is insufficient to cure the remaining differences between the subject matter of claims 51-55 and 75 and Jang.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

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